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10/580,696	05/25/2006	Winfried Esser	2003P10441WOUS	5436

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SIEMENS CORPORATION
INTELLECTUAL PROPERTY DEPARTMENT
170 WOOD AVENUE SOUTH
ISELIN, NJ 08830

EXAMINER	
WONGWIAN, PHUTTHIWAT	

ART UNIT	PAPER NUMBER
3741	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/580,696	ESSER, WINFRIED	
	Examiner	Art Unit	
	PHUTTHIWAT WONGWIAN	3741	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 February 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *19,21-34,36 and 38-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *19,21-34,36 and 38-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This office action is responsive the amendment filed on 02/11/2010. Claims 42-44 have been added, claims 1-18, 20, 35 and 37 have been cancelled and accordingly claims 19, 21-34, 36 and 38-44 are currently pending in this application.

Response to Arguments

2. Applicant's arguments filed on 02/11/2010 have been fully considered but they are not persuasive.

In response to the arguments on page 2-3 with respect to Tanaka reference that "the proportions of tin and tantalum as described in Tanaka, contrary to the Examiner's permission, are not included for the purpose of providing additional strength to the blade. Tanaka discloses that if the amount of tin is over 3% by weight there is an appreciable effect in improving corrosion, but the impact value is greatly reduced with the result in deterioration of the hardness and ductility. Accordingly, Tanaka teaches away from adding tin as a strength promoter as claimed in the subject application". The examiner respectfully, because Tanaka teaches it is well know to add tin to a nickel base alloy (col. 7, line 5-11 that "the amount of tin to be added should be less than 3% by weight"), therefore, Tanaka clearly does not teach away from adding tin as a strength promoter as claimed by the applicant, furthermore, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the

prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the range as claimed by the applicant (0.005 - 0.2% by weight of tin (Sn) in claim 19) overlap range disclosed by Tanaka, therefore, the prima facie case of obviousness exist, see MPEP 2144.05. In claims 26, 39-44 where the range 0.01% and 0.05% by weight of tin (Sn), Tanaka teaches 0.1% by weight of tin, the claim not overlap but is close enough that one skilled in the art would have expect them to have the same properties see MPEP 2144.05.

In response to the arguments with respect to Masumoto reference on page 3 that "Masumoto describes a wear-resistant alloy of high permeability. Accordingly, Masumoto has absolutely nothing to do with super alloys or strength promoters for parts or components such as turbine blades that are subject to mechanical stresses". The examiner respectfully disagree, as previously described that the obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Claim Objections

3. Claims 21-22 are objected to because of the following informalities: claims 21-22 is depended on canceled claim 20. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 41-44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 40 can not contain the same limitation as claimed in claim 44, since both claim is depended on claim 41.

7. Claim 42 can not contain the same limitation as claimed in claim 43, since both claim is depended on claim.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 19, 21-34, 36 and 38-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burgel (Pub. No. 20020157738) in view of Tanaka (US Patent No. 4,404,049) or Masumoto (US Patent No. 4,830,685).

10. As to claim 19, Burgel discloses a gas turbine engine (col. 3, line 52, "gas turbine blade"), comprising: a rotationally mounted rotor 7 (fig. 1) arranged coaxially with the longitudinal axis of the engine (inherent); an intake housing (inherent) arranged coaxially with the rotor that intakes a working fluid (inherent); a compressor (inherent) that compresses the working fluid; an annular combustion chamber (inherent) comprised of a plurality of components that accepts the compressed working fluid, mixes a fuel (inherent) with the compressed working fluid and combusts the compressed working fluid and fuel mixture to create a hot working fluid; and a turbine section (fig. 1) that expands the hot working fluid, wherein at least one combustion chamber (inherent) or turbine component is formed from a nickel, cobalt or iron superalloy (col. 3, line 6, "nickel-base superalloy")

Burgel does not disclose that *the precipitation strengthened by the addition of 50 ppm to 2000 ppm of a strength promoter from the group consisting of: zinc (Zn), tin (Sn), lead (Pb), gallium (Ga), selenium (Se) and arsenic (As).*

However, Tanaka teaches the Hard facing nickel-base alloys comprising 0.1 to 3% by weight of the tin (Sn) and/or 0.1 to 3% by weight of tantalum (abstract, lines 1-11).

Masumoto teaches a wear-resistant alloy of high permeability having 0.5% of tin (Sn) (col. 3-4, table 4).

The promoter compositions taught by Tanaka or Masumoto differ from applicants' claimed promoter composition in that Tanaka or Masumoto does not teach the exact same proportions as recited in the instant claims.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include *addition of 50 ppm to 2000 ppm (0.005-0.2 wt%) of a strength promoter from the group consisting of zinc (Zn), tin (Sn), lead (Pb), gallium (Ga), selenium (Se) and arsenic (As)* because the promoter proportions taught by Tanaka or Masumoto overlap the instantly claimed proportions, for the purpose of providing additional strength to the blade.

And also, It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

> "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages", In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

11. Claims 23-34, 36 and 38-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burgel (Pub. No. 20020157738) in view of Tanaka (US Patent No. 4,404,049) or Masumoto (US Patent No. 4,830,685) or Schaffer (US Patent No. 5,902,943) or Clark EP 0202793A2

12. As to claims 23-26, 38-44, Burgel discloses a gas turbine engine (col. 3, line 52, "gas turbine blade"), comprising: a rotationally mounted rotor 7 (fig. 1) arranged coaxially with the longitudinal axis of the engine (inherent); an intake housing (inherent) arranged coaxially with the rotor that intakes a working fluid (inherent); a compressor (inherent) that compresses the working fluid; an annular combustion chamber (inherent) comprised of a plurality of components that accepts the compressed working fluid, mixes a fuel (inherent) with the compressed working fluid and combusts the compressed working fluid and fuel mixture to create a hot working fluid; and a turbine section (fig. 1) that expands the hot working fluid, wherein at least one combustion chamber (inherent) or turbine component is formed from a nickel, cobalt or iron superalloy (col. 3, line 6, "nickel-base superalloy")

Burgel does not disclose that *the precipitation strengthened by the addition of 100 ppm to 500 ppm (0.01 – 0.05 % by weight) of a strength promoter from the group consisting of: tin (Sn).*

However, Tanaka teaches the Hard facing nickel-base alloys comprising 0.1 to 3% by weight of the tin (Sn) and/or 0.1 to 3% by weight of tantalum (abstract, lines 1-11).

Masumoto teaches a wear-resistant alloy of high permeability having 0.5% of tin (Sn) (col. 3-4, table 4).

Schaffer teaches aluminum alloy having improved mechanical properties using 0.03-0.15 wt % of lead or tin (300-1500 ppm, col. 2, line 21).

Clark teaches a filler metal that uses to repair steam turbine rotor comprises up to 0.015 wt % (150 ppm) (abstract).

The promoter compositions taught by Tanaka or Masumoto or Schaffer or Clark differ from applicants' claimed promoter composition in that Tanaka or Masumoto or Schaffer or Clark does not teach the exact same proportions as recited in the instant claims. Tanaka or Masumoto teaches the portion that is very close to claimed invention, Schaffer or Clark teaches the overlap range to the claimed range.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Burgel's invention to include *addition of 100 ppm to 500 ppm (0.01 – 0.05 % by weight) of a strength promoter from the group consisting of tin (Sn)* because the promoter proportions taught by Schaffer or Clark is overlap the claimed range and promoter proportions of Tanaka or Masumoto are close enough that one skilled in the art would have expected them to the have the same properties. See *Titanium Metals Crop. Of America v. banner* (In this case the court held as proper, a rejection of a claim directed to an alloy of "having 0.8% nickel, 0.3% molybdenum, up to 0.1% iron, balance titanium" as obvious over a reference disclosing alloys of 0.75% nickel 0.25% molybdenum, balance titanium and 0.94 % nickel, 0.31% molybdeum, balance titanium), for the purpose of providing additional strength to the blade.

And also, It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

> "The normal desire of scientists or artisans to improve upon what is already generally known provides the

> motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages", In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

13. As to claims 21-22, 27-33, Burgel discloses a nickel-base superalloy for use in a gas turbine engines (col. 4, lines 38-45). As demonstrated in the following table below, the superalloy compositions disclosed by Burgel overlaps the applicants' claimed superalloy composition.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made would to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

> "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages", In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Claims (21, 22, 27, 28)		**Burgel**	**Yoshinari**
		(col. 2, lines 1 to 50)	(col. 3, lines 1 to 14)
Cr	11-13, 9-<11 wt%	11-13 wt%	5-14 wt%

W	3-5 wt%	3-5 wt%	2-15 wt%
Mo	0.5-2.5 wt%	0.5-2.5 wt%	0-6 wt%
Al	3-5 wt%	3-5 wt%	4-7 wt%
Ti	3-5 wt%	3-5 wt%	0.5-5 wt%
Ta	3-7 wt%	3-7 wt%	0-12 wt%
Co	0-12 wt%	0-12 wt%	0-10 wt%
Nb (Cb)	0-1 wt%	0-1 wt%	0-3 wt%
Hf	0-2 wt%	0-2 wt%	0-2 wt%
Zr	0-1 wt %	0-1 wt% max.	0-0.035 wt%
B	0-0.05 wt%	0-0.05 wt%	0-0.035 wt%
C	0-0.2 wt%	0-0.2 wt %	0-0.02 wt%
Re or Ru	0.1-10, 0.1-5 wt%	1-5 wt%	Re 0-4 wt%
Remaining	Ni, Co	0-5 wt %	58 wt% or more
Or Fe and impurities		Ru, and a remainder Ni and impurities	Silent of Ru

14. As to claims 34 and 36, Burgel discloses the component material has an isotropic distribution, directionally solidified (col. 3, line 41, "directionally solidified") or single-crystal grain structure wherein the precipitation is the gamma phase (col. 4, line 1-20).

15. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshinari (US Patent No. 5,611,670) in view of Tanaka or Masumoto.

16. As to claim 19, Yoshinari discloses a high temperature gas turbine component comprising a rotationally mounted rotor (fig. 7, turbine) arranged coaxially with the longitudinal axis of the engine; an intake housing 39 (fig. 7) arranged coaxially with the rotor that intakes a working fluid; a compressor(f9g. 7, compressor) that compresses the working fluid; an annular combustion chamber (fig. 7, combustor) comprised of a plurality of components that accepts the compressed working fluid, mixes a fuel with the compressed working fluid and combusts the compressed working fluid and fuel mixture to create a hot working fluid; and a turbine section 43 (fig. 7) that expands the hot working fluid wherein the blade comprises a root section (fig. 1, the part that in contact with 15); a platform section 15 (fig. 1) arranged adjacent to the root section; a tip section 17 (fig. 1) arranged radially opposite the root section; a leading edge 1 (fig. 1) arranged between the platform and tip sections; a trailing edge 23 (fig. 1) arranged downstream of the leading edge; and a main section (fig. 1 between 1 and 23) arranged between the leading edge, trailing edge, platform section and tip sections, the high temperature gas turbine component is a turbine blade (fig. 1) wherein the precipitation is the gamma phase (col. 2, line 65) and a nickel-base supper alloy comprises of a Ni-base superalloy having the following suitable composition, see table above.

Yoshinari does not disclose *the exact same proportions of the super alloy as claimed and the superalloy is precipitation strengthened by the addition of 50-2000 ppm, up to 1100 ppm, 100-500 ppm and 75-2000 ppm of a strength promoter that increases the strength of the component by increasing the formation of precipitants*

where the strength promoter is selected from the group consisting of: zinc (Zn), tin (Sn), lead (Pb), gallium (Ga), selenium (Se) and arsenic (As).

However, Tanaka teaches the Hard facing nickel-base alloys comprising 0.1 to 3% by weight of the tin (Sn) and/or 0.1 to 3% by weight of tantalum (abstract, lines 1-11).

Masumoto teaches a wear-resistant alloy of high permeability having 0.5% of tin (Sn) (col. 3-4, table 4).

The promoter compositions taught by Tanaka or Masumoto differ from applicant's claimed promoter composition in that Tanaka or Masumoto does not teach the exact same proportions as recited in the instant claims. And the superalloy compositions disclosed by Yoshinari overlaps the applicants' claimed superalloy composition.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include *addition of 50 ppm to 2000 ppm (0.005-0.2 wt%) of a strength promoter from the group consisting of: zinc (Zn), tin (Sn), lead (Pb), gallium (Ga), selenium (Se) and arsenic (As)* because the promoter proportions taught by Tanaka or Masumoto overlap the instantly claimed proportions, for the purpose of providing additional strength to the blade.

And also, It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

> "The normal desire of scientists or artisans to improve upon what is already generally known provides the

> motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages", In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

17. Claims 21-34, 36 and 38-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshinari (US Patent No. 5,611,670) in view of Tanaka or Masumoto or Schaffer or Clark,

18. As to claims 23-34, 36 and 38-44, Yoshinari discloses a high temperature gas turbine component comprising a rotationally mounted rotor (fig. 7, turbine) arranged coaxially with the longitudinal axis of the engine; an intake housing 39 (fig. 7) arranged coaxially with the rotor that intakes a working fluid; a compressor (fig. 7, compressor) that compresses the working fluid; an annular combustion chamber (fig. 7, combustor) comprised of a plurality of components that accepts the compressed working fluid, mixes a fuel with the compressed working fluid and combusts the compressed working fluid and fuel mixture to create a hot working fluid; and a turbine section 43 (fig. 7) that expands the hot working fluid wherein the blade comprises a root section (fig. 1, the part that in contact with 15); a platform section 15 (fig. 1) arranged adjacent to the root section; a tip section 17 (fig. 1) arranged radially opposite the root section; a leading edge 1 (fig. 1) arranged between the platform and tip sections; a trailing edge 23 (fig. 1) arranged downstream of the leading edge; and a main section (fig. 1 between 1 and 23) arranged between the leading edge, trailing edge, platform section and tip sections, the

high temperature gas turbine component is a turbine blade (fig. 1) wherein the precipitation is the gamma phase (col. 2, line 65) and a nickel-base supper alloy comprises of a Ni-base superalloy having the following suitable composition, see table above.

Yoshinari does not disclose that *the precipitation strengthened by the addition of 100 ppm to 500 ppm (0.01 – 0.05 % by weight) of a strength promoter from the group consisting of: tin (Sn).*

However, Tanaka teaches the Hard facing nickel-base alloys comprising 0.1 to 3% by weight of the tin (Sn) and/or 0.1 to 3% by weight of tantalum (abstract, lines 1-11).

Masumoto teaches a wear-resistant alloy of high permeability having 0.5% of tin (Sn) (col. 3-4, table 4).

Schaffer teaches aluminum alloy having improved mechanical properties using 0.03-0.15 wt % of lead or tin (300-1500 ppm, col. 2, line 21).

Clark teaches a filler metal that uses to repair steam turbine rotor comprises up to 0.015 wt % (150 ppm) (abstract).

The promoter compositions taught by Tanaka or Masumoto or Schaffer or Clark differ from applicants' claimed promoter composition in that Tanaka or Masumoto or Schaffer or Clark does not teach the exact same proportions as recited in the instant claims. Tanaka or Masumoto teaches the portion that is very close to claimed invention, Schaffer or Clark teaches the overlap range to the claimed range.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yoshinari's invention to include *addition of 100 ppm to 500 ppm (0.01 – 0.05 % by weight) of a strength promoter from the group consisting of tin (Sn)* because the promoter proportions taught by Schaffer or Clark is overlap the claimed range and promoter proportions of Tanaka or Masumoto are close enough that one skilled in the art would have expected them to the have the same properties. See *Titanium Metals Crop. Of America v. banner* (In this case the court held as proper, a rejection of a claim directed to an alloy of "having 0.8% nickel, 0.3% molybdenum, up to 0.1% iron, balance titanium" as obvious over a reference disclosing alloys of 0.75% nickel 0.25% molybdenum, balance titanium and 0.94 % nickel, 0.31% molybdeum, balance titanium), for the purpose of providing additional strength to the blade.

And also, It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

> "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages", In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

19. As to claim 34, Yoshinari discloses the component material has directionally solidified (col. 2, line 45-60) .

Conclusion

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHUTTHIWAT WONGWIAN whose telephone number is 571-270-5426. The examiner can normally be reached on Monday - Thursday, 7:30am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MICHAEL A. CUFF can be reached on 571-272-6778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. W./
Examiner, Art Unit 3741

/Michael Cuff/
Supervisory Patent Examiner, Art Unit 3741